FIG. 1

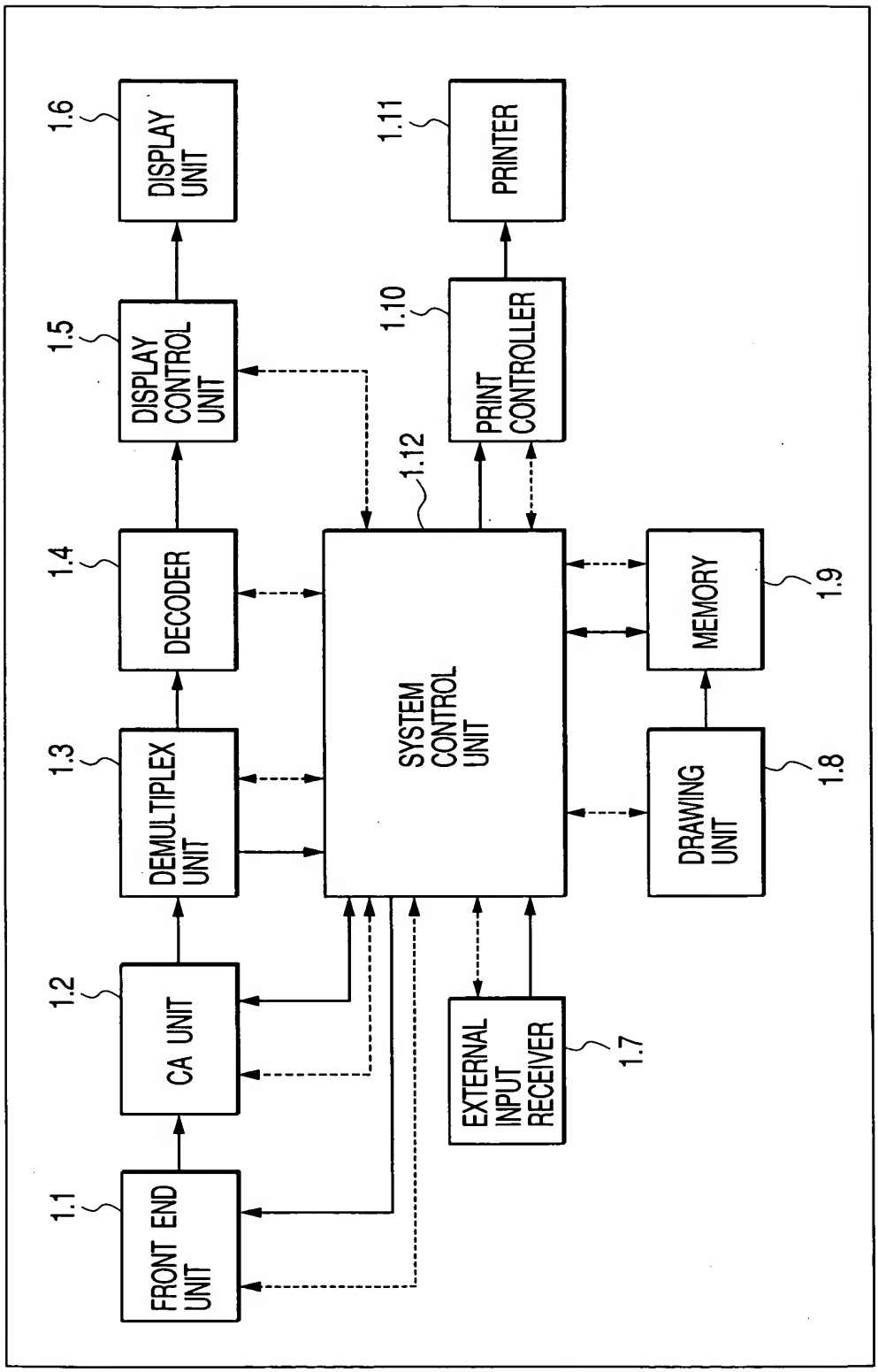
1.6
DISPLAY UNIT
1.11
PRINTER
1.5
DISPLAY CONTROL UNIT
1.10
PRINT CONTROLLER
1.12
1.4
DECODER
SYSTEM CONTROL UNIT
MEMORY
1.9
1.3
DEMULTIPLEX UNIT
DRAWING UNIT
1.8
1.2
CA UNIT
EXTERNAL INPUT RECEIVER
1.7
1.1
FRONT END UNIT

FIG. 2A

TIME	ch 100 XX CHANNEL	ch 101 XX CHANNEL	ch 102 XX CHANNEL	ch 103 XX CHANNEL
6:00	WEATHER OF TODAY XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX
7:00	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX
8:00	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX
9:00	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX
10:00				

FIG. 2B

	6:00	7:00	8:00	9:00	10:00
CH 201 XX CHANNEL	WEATHER OF TODAY XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	
CH 202 XX CHANNEL	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	
CH 300 XX CHANNEL	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	
Ch 305 XX CHANNEL	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	XXXXX XXXXXXXXXXX XXXXXXXXXX	

FIG. 3

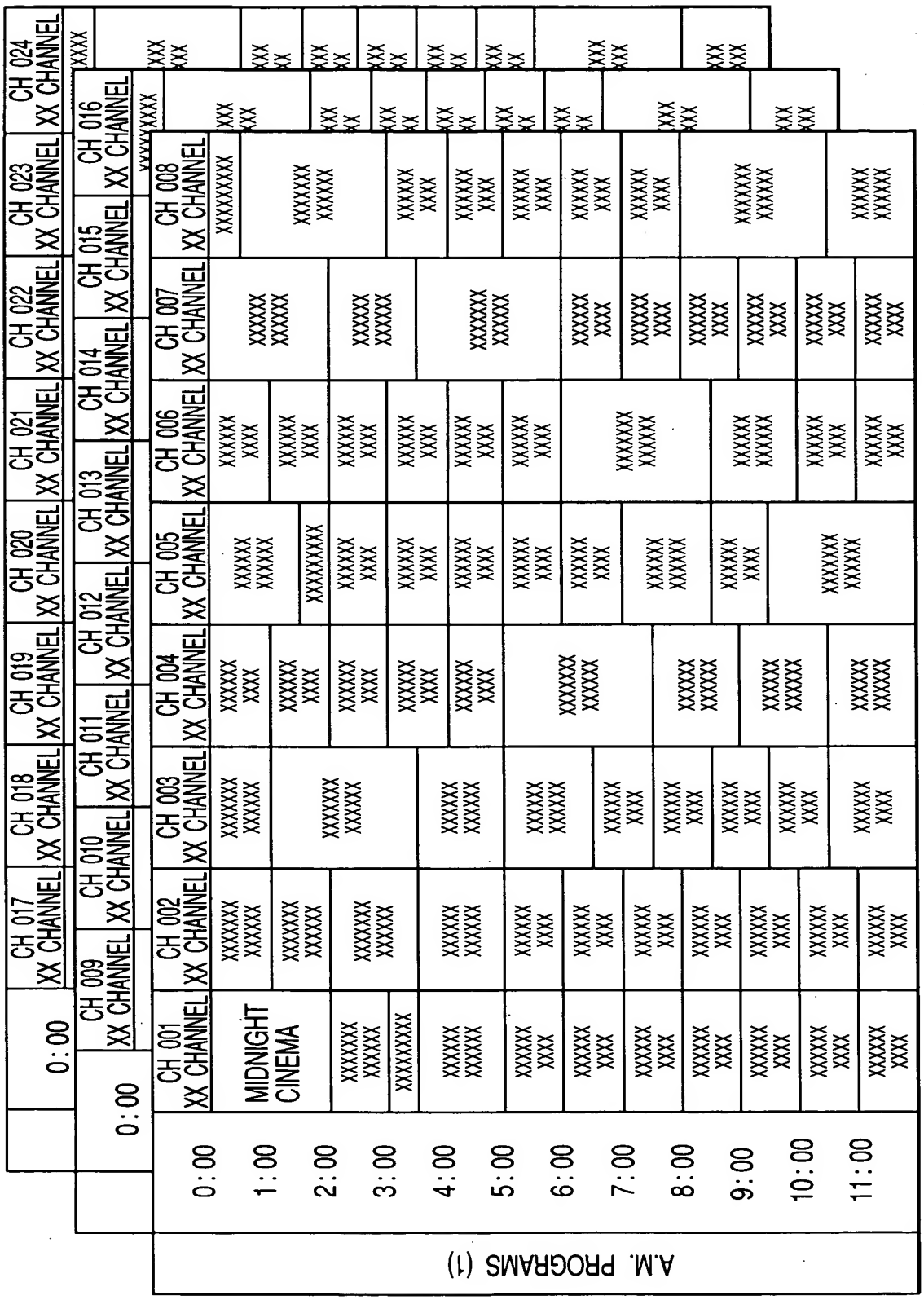
A.M. PROGRAMS (1)
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
CH 001 XX CHANNEL
CH 002 XX CHANNEL
CH 003 XX CHANNEL
CH 004 XX CHANNEL
CH 005 XX CHANNEL
CH 006 XX CHANNEL
CH 007 XX CHANNEL
CH 008 XX CHANNEL
CH 009 XX CHANNEL
CH 010 XX CHANNEL
CH 011 XX CHANNEL
CH 012 XX CHANNEL
CH 013 XX CHANNEL
CH 014 XX CHANNEL
CH 015 XX CHANNEL
CH 016 XX CHANNEL
CH 017 XX CHANNEL
CH 018 XX CHANNEL
CH 019 XX CHANNEL
CH 020 XX CHANNEL
CH 021 XX CHANNEL
CH 022 XX CHANNEL
CH 023 XX CHANNEL
CH 024 XX CHANNEL
MIDNIGHT CINEMA

FIG. 4

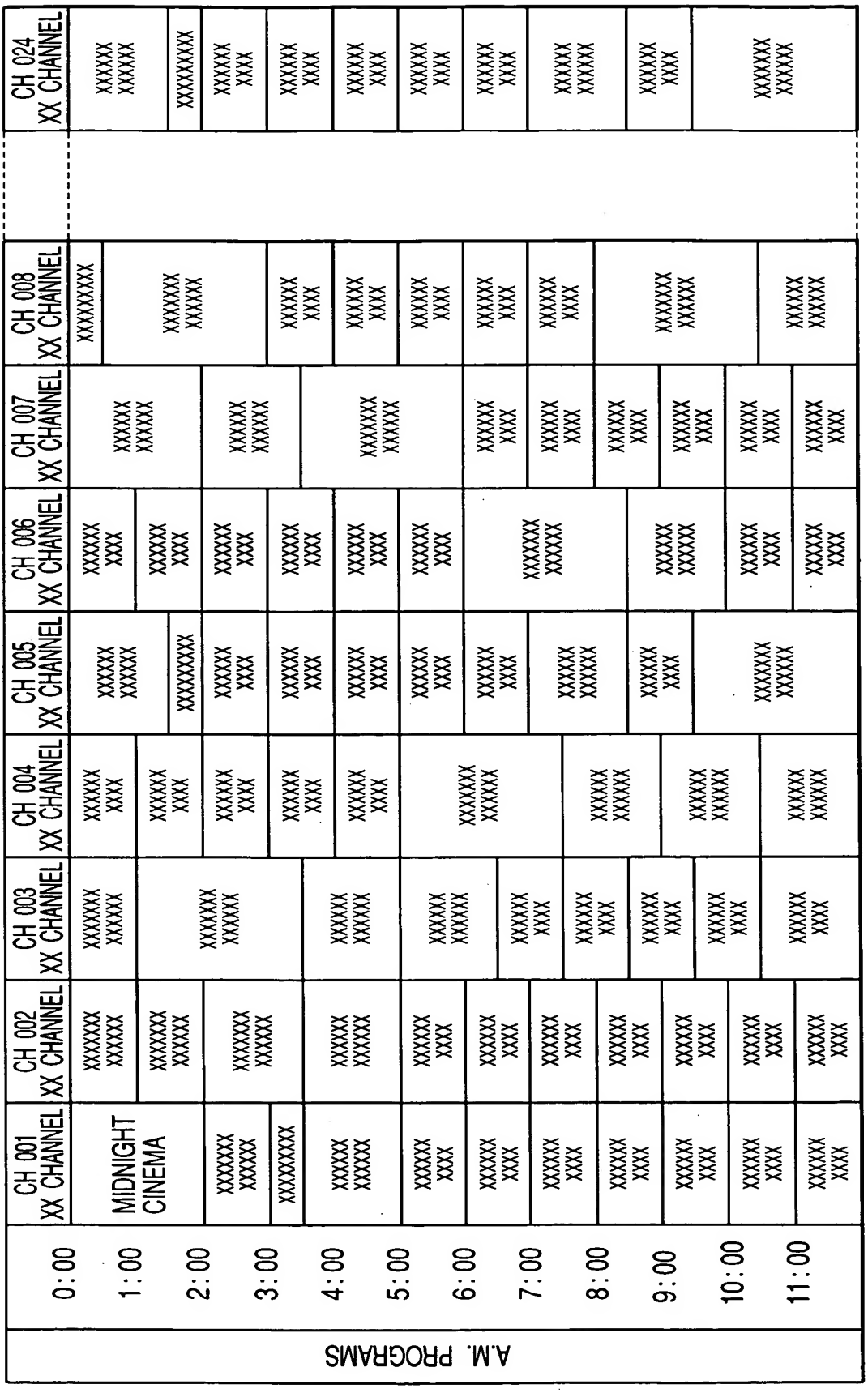
A.M. PROGRAMS
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
CH 001 XX CHANNEL
CH 002 XX CHANNEL
CH 003 XX CHANNEL
CH 004 XX CHANNEL
CH 005 XX CHANNEL
CH 006 XX CHANNEL
CH 007 XX CHANNEL
CH 008 XX CHANNEL
CH 024 XX CHANNEL
MIDNIGHT CINEMA
XXXXXX XXXXX XXX
XXXXXXXXX

FIG. 5

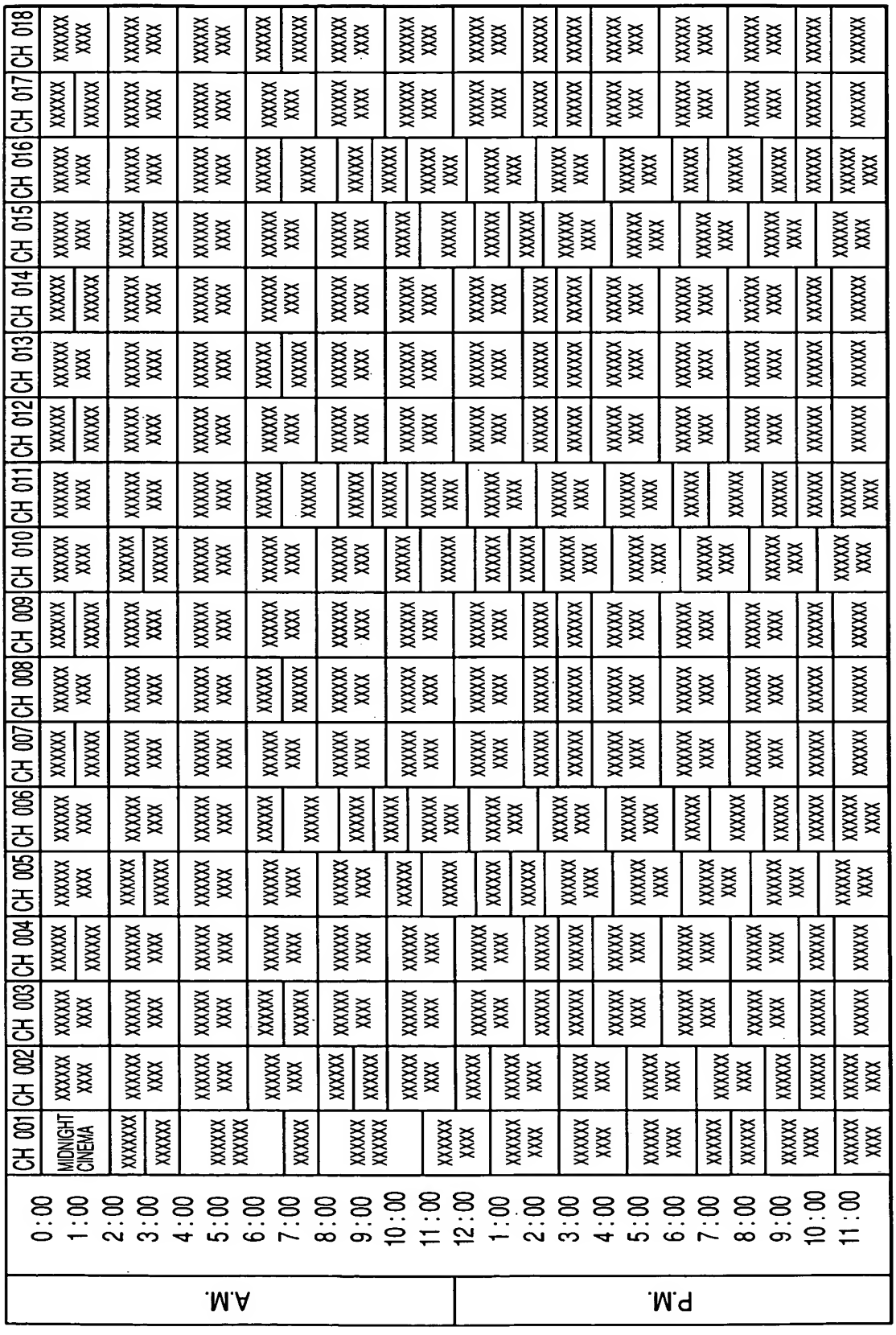
A.M.
P.M.
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
CH 001
CH 002
CH 003
CH 004
CH 005
CH 006
CH 007
CH 008
CH 009
CH 010
CH 011
CH 012
CH 013
CH 014
CH 015
CH 016
CH 017
CH 018
MIDNIGHT CINEMA
XXXXX
XXX

FIG. 6

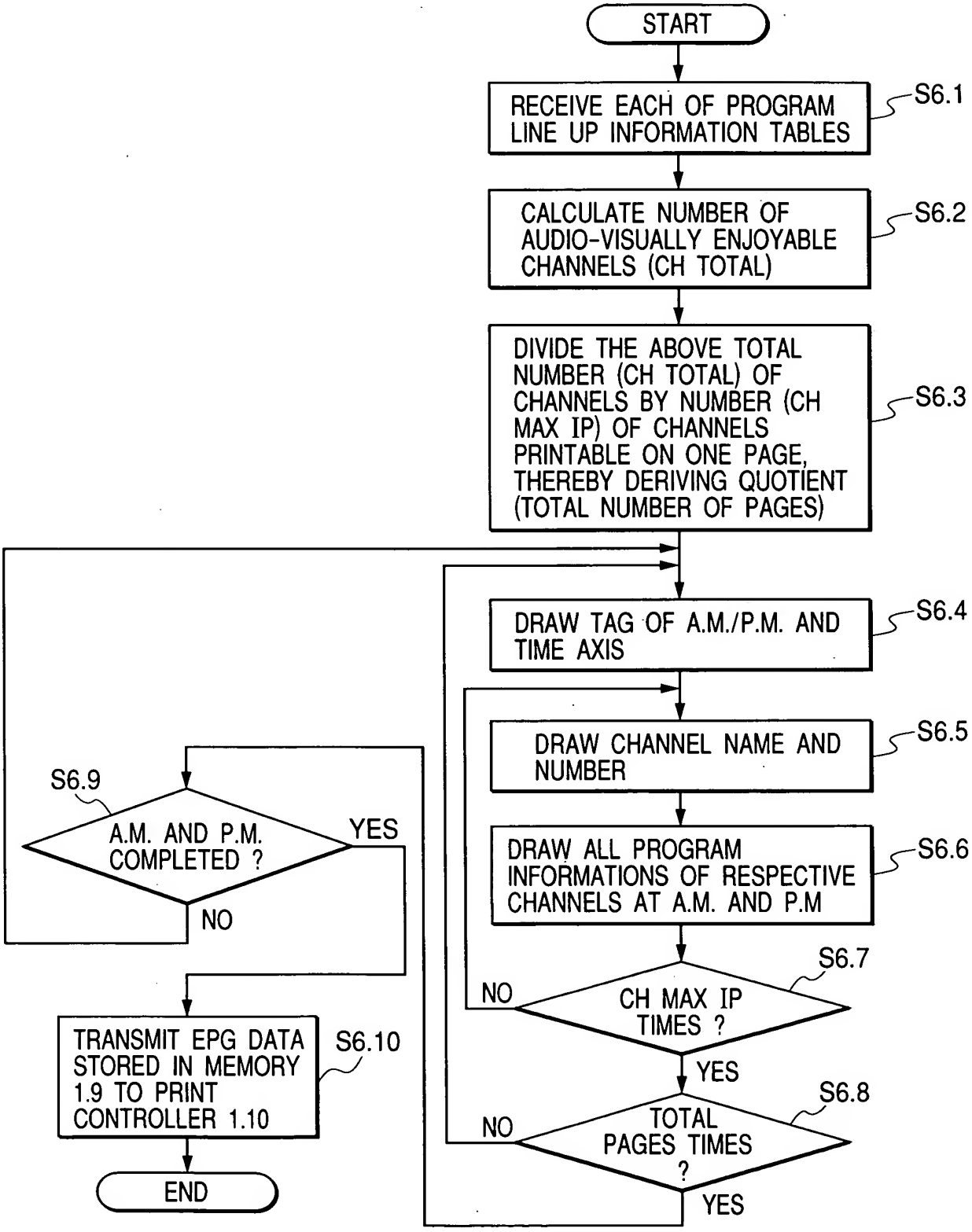
START
RECEIVE EACH OF PROGRAM LINE UP INFORMATION TABLES
S6.1
CALCULATE NUMBER OF AUDIO-VISUALLY ENJOYABLE CHANNELS (CH TOTAL)
S6.2
DIVIDE THE ABOVE TOTAL NUMBER (CH TOTAL) OF CHANNELS BY NUMBER (CH MAX IP) OF CHANNELS PRINTABLE ON ONE PAGE, THEREBY DERIVING QUOTIENT (TOTAL NUMBER OF PAGES)
S6.3
DRAW TAG OF A.M./P.M. AND TIME AXIS
S6.4
DRAW CHANNEL NAME AND NUMBER
S6.5
DRAW ALL PROGRAM INFORMATIONS OF RESPECTIVE CHANNELS AT A.M. AND P.M
S6.6
CH MAX IP TIMES ?
S6.7
NO
YES
TOTAL PAGES TIMES ?
S6.8
NO
YES
A.M. AND P.M. COMPLETED ?
S6.9
YES
NO
TRANSMIT EPG DATA STORED IN MEMORY 1.9 TO PRINT CONTROLLER 1.10
S6.10
END

FIG. 7

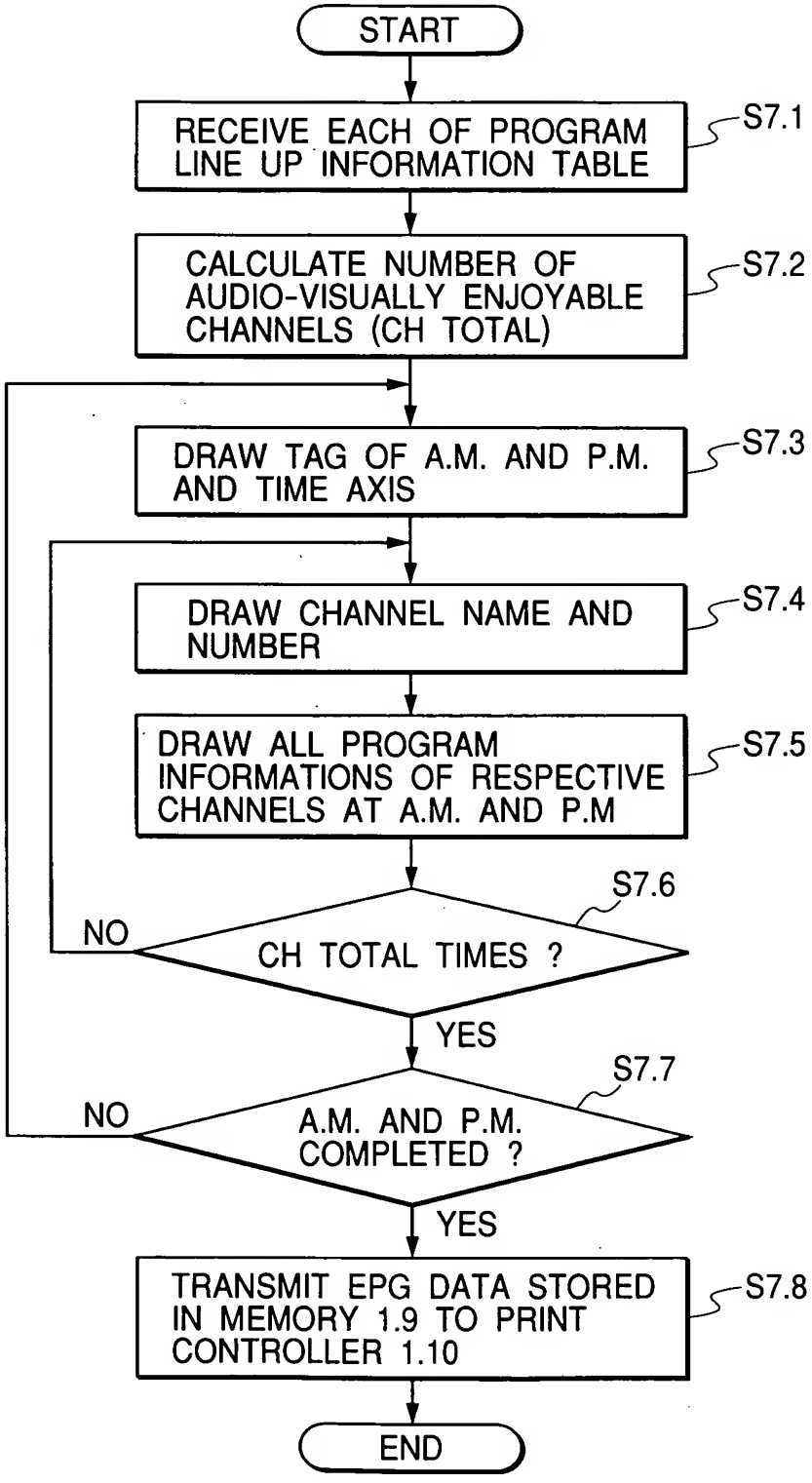
START
RECEIVE EACH OF PROGRAM LINE UP INFORMATION TABLE
S7.1
CALCULATE NUMBER OF AUDIO-VISUALLY ENJOYABLE CHANNELS (CH TOTAL)
S7.2
DRAW TAG OF A.M. AND P.M. AND TIME AXIS
S7.3
DRAW CHANNEL NAME AND NUMBER
S7.4
DRAW ALL PROGRAM INFORMATIONS OF RESPECTIVE CHANNELS AT A.M. AND P.M
S7.5
S7.6
CH TOTAL TIMES ?
NO
YES
S7.7
A.M. AND P.M. COMPLETED ?
NO
YES
TRANSMIT EPG DATA STORED IN MEMORY 1.9 TO PRINT CONTROLLER 1.10
S7.8
END

FIG. 8

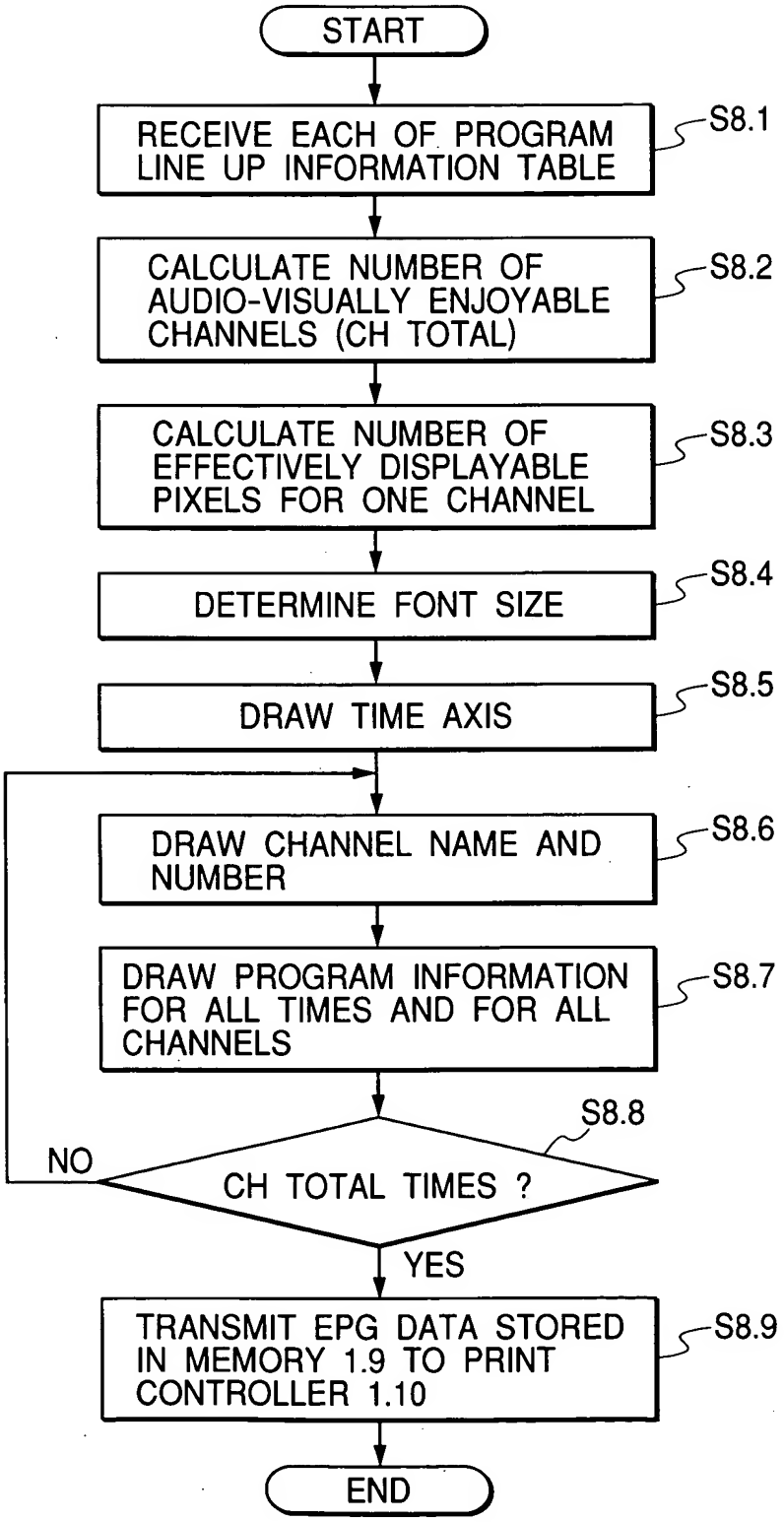
START
RECEIVE EACH OF PROGRAM LINE UP INFORMATION TABLE
S8.1
CALCULATE NUMBER OF AUDIO-VISUALLY ENJOYABLE CHANNELS (CH TOTAL)
S8.2
CALCULATE NUMBER OF EFFECTIVELY DISPLAYABLE PIXELS FOR ONE CHANNEL
S8.3
DETERMINE FONT SIZE
S8.4
DRAW TIME AXIS
S8.5
DRAW CHANNEL NAME AND NUMBER
S8.6
DRAW PROGRAM INFORMATION FOR ALL TIMES AND FOR ALL CHANNELS
S8.7
S8.8
NO
CH TOTAL TIMES ?
YES
TRANSMIT EPG DATA STORED IN MEMORY 1.9 TO PRINT CONTROLLER 1.10
S8.9
END

FIG. 9

FIG. 9A	FIG. 9B

FIG. 9A

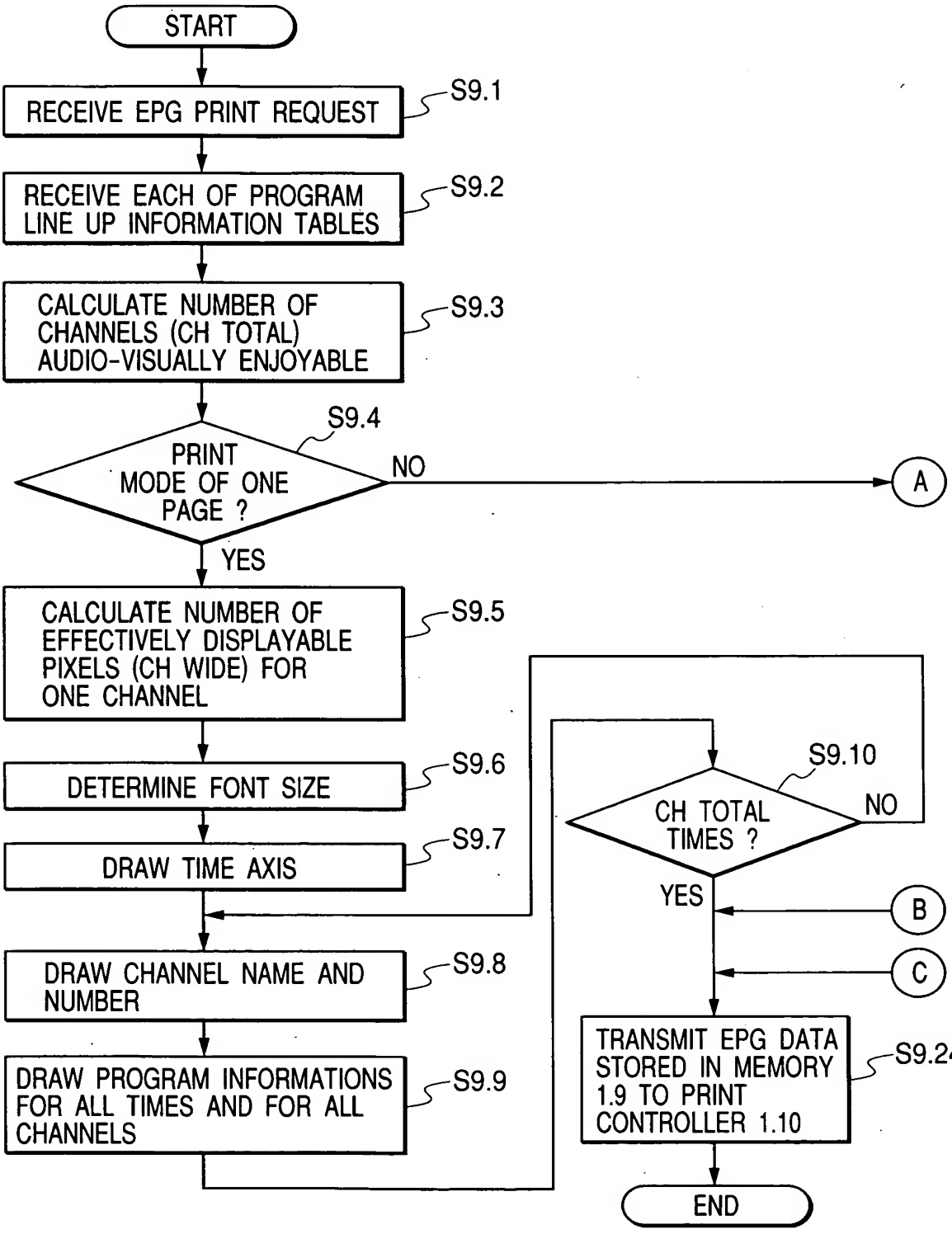

FIG. 9B

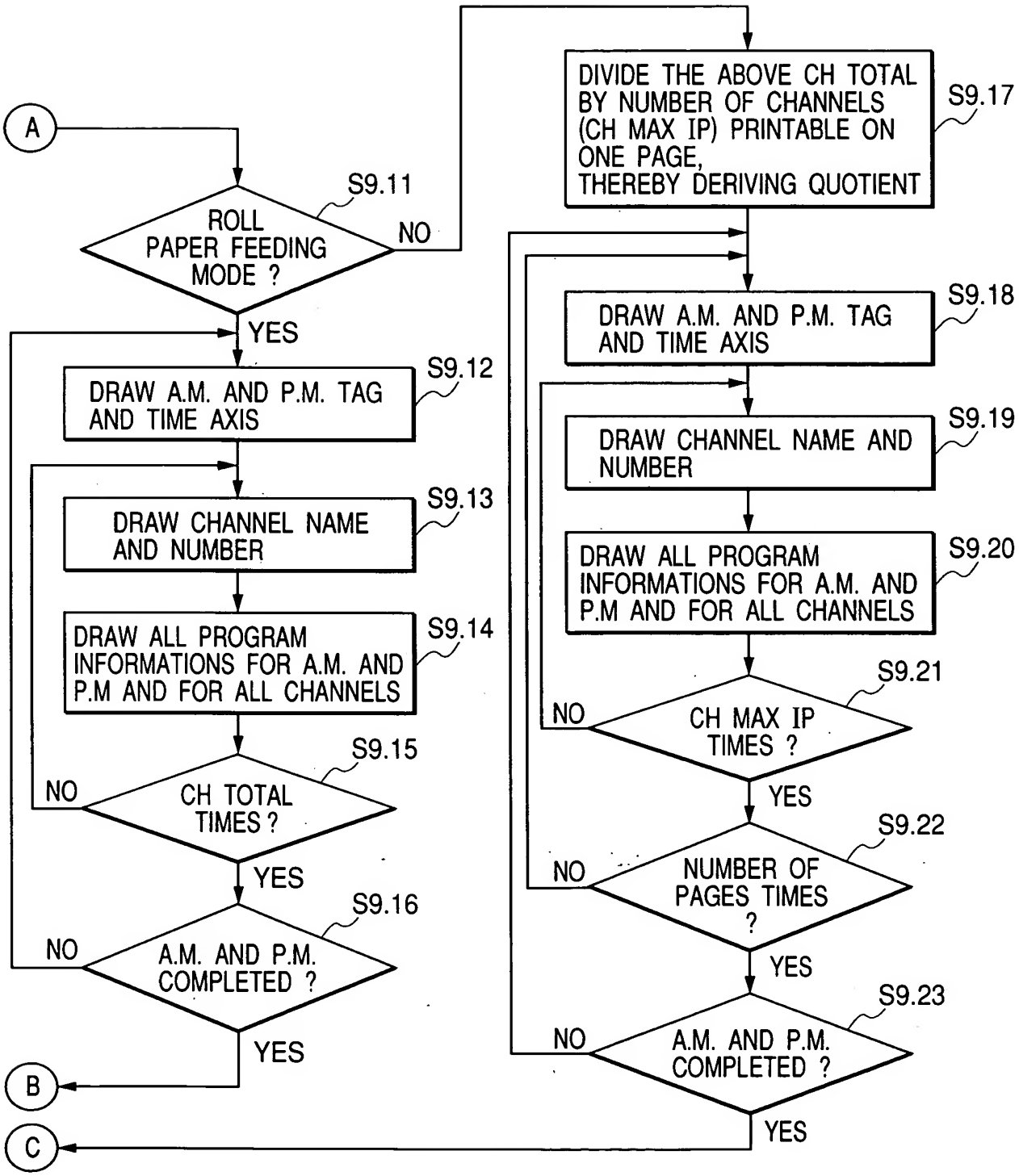
A
S9.11
ROLL PAPER FEEDING MODE ?
NO
YES
S9.12
DRAW A.M. AND P.M. TAG AND TIME AXIS
S9.13
DRAW CHANNEL NAME AND NUMBER
S9.14
DRAW ALL PROGRAM INFORMATIONS FOR A.M. AND P.M AND FOR ALL CHANNELS
S9.15
CH TOTAL TIMES ?
NO
YES
S9.16
A.M. AND P.M. COMPLETED ?
NO
YES
B
C
S9.17
DIVIDE THE ABOVE CH TOTAL BY NUMBER OF CHANNELS (CH MAX IP) PRINTABLE ON ONE PAGE, THEREBY DERIVING QUOTIENT
S9.18
DRAW A.M. AND P.M. TAG AND TIME AXIS
S9.19
DRAW CHANNEL NAME AND NUMBER
S9.20
DRAW ALL PROGRAM INFORMATIONS FOR A.M. AND P.M AND FOR ALL CHANNELS
S9.21
CH MAX IP TIMES ?
NO
YES
S9.22
NUMBER OF PAGES TIMES ?
NO
YES
S9.23
A.M. AND P.M. COMPLETED ?
NO
YES

FIG. 10

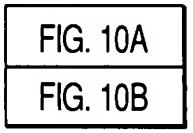

FIG. 10A

TABLE NAMES	BRIEF EXPLANATION OF FUNCTIONS
PAT (PROGRAM ASSOCIATION TABLE)	TRANSMIT PMT RELATING TO PROGRAM BROADCASTED, DESIGNATE TS PACKET IDENTIFIER
CAT (CONDITIONAL ACCESS TABLE)	TRANSMIT INDIVISUAL INFORMATION AMONG CHARGED BROADCASTING RELATED INFORMATION, AND DESIGNATE TS PACKET IDENTIFIER
PMT (PROGRAM MAP TABLE)	TRANSMIT EACH OF CODED SIGNALS CONSTITUTING BROADCASTED PROGRAM, DESIGNATE PACKET IDENTIFIER OF TS PACKET AND PACKET IDENTIFIER OF TS PACKET TRANSMITTING COMMON INFORMATION AMONG CHARGED BROADCASTING RELATED INFORMATIONS
NIT (NETWORK INFORMATION TABLE)	TRANSMIT INFORMATION OF TRANSMITTING PATH SUCH AS MODULATION FREQUENCY, AND INFORMATION MAKING RELATION OF BROADCASTED PROGRAM
SDT (SERVICE DESCRIPTION TABLE)	TRANSMIT INFORMATION RELATING ARRANGED CHANNELS SUCH AS ARRANGED CHANNEL NAME AND WORKER NAME
BAT (BOUQUET ASSOCIATION TABLE)	DESIGNATE INFORMATION RELATING TO BOUQUET (SET OF ARRANGED CHANNELS) SUCH AS BOUQUET NAME AND ARRANGED CHANNELS INCLUDED THEREIN

TO FIG. 10B

FIG. 10B

FROM FIG. 10A

EIT (EVENT INFORMATION TABLE)	DESIGNATE INFORMATION RELATING TO PROGRAM SUCH AS PROGRAM NAME, BROADCASTING DATE, AND EXPLANATION OF CONTENTS
RST (RUNNING STATUS TABLE)	DESIGNATE CURRENT STATE OF PROGRESSING PROGRAM
TDT (TIME DATE TABLE)	DESIGNATE PRESENT TIME AND TODAY'S DATE
TOT (TIME OFFSET TABLE)	DESIGNATE TODAY'S DATE AND PRESENT TIME, AND DESIGNATE DIFFERENCE BETWEEN REAL TIME AND DISPLAYED TIME FOR HUMAN MONITORING
LIT (LOCAL EVENT INFORMATION TABLE)	DESIGNATE INFORMATIONS RELATING TO LOCAL EVENT, SUCH AS DISCRIMINATION (TIME) OF LOCAL EVENT (SCENE) IN PROGRAM, NAME, AND EXPLANATION
ERT (EVENT RELATION TABLE)	DISPLAY RELATION BETWEEN PROGRAM AND LOCAL EVENT, SUCH AS GROUP AND CATEGORY OF PROGRAM AND LOCAL EVENT
ITT (INDEX TRANSMISSION TABLE)	DESCRIPTION OF INFORMATION RELATING TO PROGRAM INDEX AT BROADCASTING THE PROGRAM
PCAT (PARTIAL CONTENT ANNOUNCEMENT TABLE)	ANNOUNCE CONTENTS DIFFERENTIAL BROADCASTING AT DATA BROADCASTING
ST (STUFFING TABLE)	DISABLE TABLE
TABLE SET BY WORKERS	REGISTRATION AND PARK

FIG. 11

TABLE	PID
PAT (PROGRAM ASSOCIATION TABLE)	0x0000
PMT (PROGRAM MAP TABLE)	DESIGNATE INDIRECTLY BY PAT
CAT (CONDITIONAL ACCESS TABLE)	0x0001
NIT (NETWORK INFORMATION TABLE)	0x0010
SDT (SERVICE DESCRIPTION TABLE)	0x0011
BAT (BOUQUET ASSOCIATION TABLE)	0x0011
EIT (EVENT INFORMATION TABLE)	0x0012
RST (RUNNING STATUS TABLE)	0x0013
TDT (TIME DATE TABLE)	0x0014
TOT (TIME OFFSET TABLE)	0x0014
LIT (LOCAL EVENT INFORMATION TABLE)	DESIGNATE BY 0x0020 OR PMT
ERT (EVENT RELATION TABLE)	DESIGNATE BY 0x0021 OR PMT
ITT (INDEX TRANSMISSION TABLE)	DESIGNATE INDIRECTLY BY PMT
PCAT (PARTIAL CONTENT ANNOUNCEMENT TABLE)	0x0022
ST (STUFFING TABLE)	EXCEPT FOR 0x0000, 0x0001, 0x0014
NULL PACKET	0x1fff